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ORIGINAL ARTICLES: PAGE	New Treatment of Bright's Disease. Net-
A Dissertation on the Transportation of Persons Ill with Contagious or Infectious Disease. By G. P. Conn, M. D 1081	schajeff. 1099 Vertical Handwriting. Montreal Medical Journal. 1096
The Treatment of Diphtheria, By E. L. B.	Obituary 1099
Godfrey, M. D	BOOK NOTES 1100
Baer's Method.—Recovery. By Thad. A. Reamy, M. D., L. L. D 1089	BUREAU OF INFORMATION: Diabetes in Pregnancy. W. F. Carson . 1100
LECTURE:	THE MEDICAL DIGEST:
The Philosophy of Man, By James E. Garretson, A. M., M. D	The Treatment of Cancer with Chromanilin. Tessari
T. H. M 1094	pation of the Rectum. Willems 1102 Conception During the Puerperal Period.
ANNOTATIONS:	Tuberculous Peritonitis Similating Preg-
Studies on Fever. Bonchard 1095 Anesthesia by Ether and the Results in the Practice of Surgeons of Lyons. T. H. M. 1095	nancy. Budin
The Leucocytes, or the White Globules in the Blood as Protective Agents of the	PRESCRIPTIONS:
Economy. T. H. M 1097	MISCELLANY:iv, x

# Original Articles.

A DISSERTATION ON THE TRANS-PORTATION OF PERSONS, ILL WITH CONTAGIOUS OR IN-FECTIOUS DISEASE.\*

> By G. P. CONN, CONCORD, N. H.

THAT railroads and steamships, in their capacity of common carriers, may and do become disseminators of infectious and contagious diseases, can be assumed without any fear of the assertion being controverted.

It is a well known fact that small-pox came into Montreal in 1885, amid all the luxurious appointments of our justly celebrated Pullman service; that yellow fever came into Grenada and Memphis, as well as other towns, in 1878, riding in all kinds of coaches; that steamship lines every year bring to our shores more or less that are suffering from typhus fever or other contagious disease, and that ex-

perience has proven that all forms of transportation may and do become the avenues by which disease finds its way from place to place,

It is an equally safe assertion that there is no one connected with the management of our railroads but will disclaim any intention of their lines being used to spread disease, and at the same time they would gladly welcome any reliable information that would enable their lines to formulate rules and regulations that would overcome the difficulties that now surround the problem of sanitation as applied to railway transportation.

The public, since the epidemic of yellow fever in 1878-9, have become critical and easily alarmed upon questions bearing directly or indirectly upon the health of individuals, families or communities, and therefore state boards of health as well as municipal health officers oftentimes feel called upon to exercise authority at different points, much to the discomfiture of the management and patrons of great through lines of trayel.

If we had a central or national board of health that could act in conjunction with the interstate commerce commis-

<sup>\*</sup>Read at Annual Meeting of Railway Surgeons of New York at Academy of Medicine, Nov. 15, 1893.

sion, it is possible something might be done to give to the public and the management of roads some uniform method by which all might be governed; but as we have nothing of the kind, it is quite time that associations like this and our national association of railway surgeons were discussing this subject, for we may at any time, in our association with railways and their management, be brought face to face with an epidemic travelling across our country with the de-

vastating power of a cyclone.

To snow that I am not the only one who holds this belief. I will instance the following: So long ago as 1884, W. Thornton Parker, Surgeon U.S.A., then stationed in New Mexico. in a paper read before the American Public Health Association, entered an emphatic protest against allowing people ill with contagious and infectious disease occupying cars in which the public were expected to travel. To quote from his paper, he said-"Not only are the ordinary cars thus constantly contaminated, but the more luxurious and expensive sleeping cars are very much used for cases suffering with whooping cough, scarlatina, and other diseases. Patients convalesing from contagious diseases are very commonly met with. I understand that quite recently a very prominent and educated lady travelled from San Francisco to Boston, and even beyond, with children sick with whooping cough In this case a private compartment was used; but, of course the danger of infecting other children was only lessened, not re-Several cases of that most moved. dreaded of all diseases of children, scarlet fever, have to my knowledge been communicated in this way. A healthy child occupies the same seat where a convalescing scarlet fever patient has been sitting, and falls a victim to this terrible disease. Such license is an outrage on the travel. ing public and should not be tolerated another day."

Such was the language of an acute observer nearly ten years since, and while state and local boards of health have made great advancement in most matters connected with sanitation, the condition remains the same in our rail-way cars. I am not certain but the conditions are worse, for I believe that with

the opening of new avenues for travel, far more people are passing over our roads in the pursuit of heath than was thought possible ten years since. ten

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At that time Dr. Parker suggested that railway stations officials, conductors and others connected with the train department, be required to prohibit persons suffering from contagious diseases from occupying cars used by the general travelling public. Surely a commendable suggestion, but I fear impractical, as these men could not be expected to diagnose disease. He added that a hospital sleeper could be furnished on through lines, and a medical inspector for large stations like those of New York, Chicago; St. Louis, and other large places, and said these inspectors should have the legal authority to force patients suffering from contagious diseases or convalescing from infectious disorders into these special cars. To-day this would not be considered practical, for small pox and diphtheria, scarlet lever nor measles would be considered fit subjects to be placed in the same car.

As another instance, allow me to quote from the address of medical director Albert L. Gihon, U. S. N. In the course of his address to the section "On Hygiene, Climatology and Demography" of the Pan American congress, on the occasion of its recent meeting in Washington. Dr. Gihon used the following impressive language: The consumptive, whose traits no professional acumen is required to recognize, frequents our crowded thoroughfares, sits beside us in unventilated street cars, and at the hotel table, occupies Pullman sleeping berths and shares the steamship state-room, wholly unrestrained and innocently ignorant that he or she may be sowing the seeds of disease among delicate women and children. Any one may verify this who uses his eyes for the purpose along the railway and coastwise steamer routes to our invalid resorts. Within a twelve month, on my way to Mexico by rail. I was a fellow passenger with two invalids in the advanced stage of phthisis, en route for San Antonio, one of whom occupied the opposite berth, and the other one diagonally across the car, so that I could see and hear them coughing and expectorating, with only such attention as well intending but unskilled relatives could ren-They had no vessels for receiving their sputa, which was discharged in their pocket handkerchiefs, to be scattered over pillows, coverlets and blankets. They left the car in the morning, and I saw those same berths, it is true with change of linen sheets and pillow-cases, but with no change of blankets, mattresses or pillows, occupied that very night by other travellers, who were thus subjected to contact with a pathogenic microbe far more tenacious of life and power of evil-doing than the dreaded cholera spirillum. One has only to sit in a crowded street car on a winter day and watch the clouds of respiratory steam circling from the mouths and nostrils of the unclean and diseased into the mouths and nostrils of the clean and healthy, as the expiratory effort of the one corresponds with the inspiratory act of the other.

"The road is short but straight and sure from vomica and mucous patch to the receptive nidus in another's body. Who that has ever had forced upon him an aerial feast of cabbage, onions, garlic, alcohol, tobacco and the gastric effluvia of an old debauche can doubt that aquerous vapor can transport microscopic germs by the same route? Not long ago I travelled by sea from New York to Charleston, and for two nights was cabined with some twenty consumptives going to Florida. The air was chill, and they huddled around the stoves and fearfully and fearlessly closed doors and windows, until the atmosphere became stifling with their emanations and the dried sputa, which they ejected on every side. It was comparatively easy to escape during the day by staying on deck, and I slept with my stateroom windows wide open, but the curtains, carpets, pillows and mattresses had been saturated by I know not how many expectorating predecessors. I have visited fifty small pox patients a day, have gone through yellow fever wards and stood by cholera bedsides with far less apprehension than I experienced on that trip, yet it was one taken by many thousands of people, who would have been terrified to know that a case of cholera was within a mile to leeward of their homes."

Now let us for a moment digress and

suppose that the conditions Dr. Gihon has so graphically described, and which almost any one having had occasion to make long journeys over our trunk lines of railroads can duplicate over and over again—suppose that instead of diseased men, women and children, there was to be found Texas steers, glandered horses from New York, or diseased animals from any part of our country, would such diseased animals be allowed to travel in close proximity with other cattle? Certainly not: but if any one disbelieves this assertion, let him start from Texas or Wyoming with a car load of diseased animals with the intention of finding a market for them in New England. He will not get far before he will find he is the centre of a cyclone, and will be expected to run a bureau of information. It will be exceptional if he can travel twenty-four hours before every cattle commission and board of agriculture in the United States will be informed of the dangerous character of his herd, and protests against his being allowed to go from state to state will reach him from all directions. The transportation companies will also be notified that they are transgressing the law in opening an avenue by which contagious and infectious disease may be spread among other herds of cattle that are now in a healthy condition. Boards of cattle commisioners all along the expected route will assume unusual activity; telegrams will be sent over the wires at lightning speed; distinguished experts in veterinary medicine and surgery will be consulted; the federal power at Washington, as represented by a distinguished member of the president's cabinet, will be apprised of the dangers to be apprehended, and appealed to by those who have good reason to believe the transportation of diseased cattle through the country is liable to become a menace to the material interest of a large class of our citizens; and all these efforts proving unavailing, the strong arm of the law is invoked, not only to prevent the transportation of diseased animals, but the transportation companies have been made the defendants in suits brought to recover damages. (See foot note at end of article.)

There can be no doubt but it is a simple act of justice to our agricultural

friends to promptly and intelligently meet such an emergency, and I believe I have as much sympathy for the welfare of the lower animals as any one, and would be glad to insure them at all times the kindest treatment and the best of care in all their conditions; yet I must admit that, under similar circumstances, I should like to see the same spirit prevail in regard to the human race, so that where epidemic influences are abroad we could appeal to the strong arm of the law and call to our aid expert knowledge with the same facility that can be done for the brute creation.

Dr. C. W. P. Brock in his address as president of the National Association of Railway Surgeons, at its meeting in Omaha, refers to this in the following

eloquent language. He said:

"Human beings, born to immortality, are entitled to as much protection as the dumb beast; but it is not accorded to them by the laws governing the trans-

portation of the country.

"The government has established a Bureau of Animal Industry, to prevent the exportation of diseased cattle and to provide means for the suppression and to prevent the dessemination of contagious and infectious diseases among domestic animals, and makes an annual appropriation for the support of the bureau and assigns a cabinet officer to the head of it. This officer can stop the shipment of domestic animals from any section of the country he may see fit, and issue specific directions how the cars, pens, etc., shall be disinfected. Now this is as it should be, and shows wonderful foresight and care on the part of our great government in protecting the pockets of her citizens from loss by the disease and death of their domestic ani-But how is it when you come to human beings? Why, absolutely no protection is afforded to them. If there was a money value attached to each individual that would make him equal in value to one of these domestic anima's, Congress might be moved to the enactment of laws for the protection of those who are but "little lower than the angels, and created in the image of God himself."

"Man's inhumanity to man makes countless millions mourn."

At this point we may naturally inquire whether, as surgeons to important railway interests, we have any duties regarding railway sanitation. It is true that in some sections of our country railway directors and managers seem to regard us a necessary evil; like a fire extinguisher, only to be used in case of fire; our services only to be called for in case of accident, and only paying for such service, they very soon only think of us as in some way connected with misfortune. In this they are very much like other people, for the majority of the public do not, as a rule, think it necessary to consult us except that misfortune overtakes themselves or some member of their families. Yet in this there has been a marked improvement during the last decade, for the public are becoming more and more alive to the necessities of personal hygiene as well as public sanitation.

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In this way public sentiment in matters pertaining to sanitation is fostered and developed until state and municipal authorities are warranted in making and maintaining wholesome rules and regulations governing the hygienic conditions of individuals and communities.

Such being the fact, we may confidently expect that the management of our railways will find it for their advantage to take more advanced ground, and instead of following in the wake of publicsentiment, take a new position, and either establish a department of hygiene in connection with surgery, or arrive at the same conclusions by some other means that will suit them better. It must in some way take cognizance of the sanitary condition of its cars, grounds, depots and warehouses, as well as of those accidentally injured along the line. It is quite certain that, the patron of the road who is enabled to make a journey across the continent without suffering the discomforts arising from the lack of an intelligent care of the heating and ventilating of coaches, and who can arrive at his destination in a good, sound, healthy vigorous condition, ready for business as soon as the train comes to a full stop, will never forget that I ne nor fail to draw congratulatory conclusions regarding the management whose intelligent care has been the means of rendering such results possible.

Domestic animals, although their owner may be quite willing to pay a fare, are generally consigned to the baggage car, and this without regard to whether they are in health or diseased; yet it will not do to send a passenger to the same compartment, and especially one that is seriously ill. Therefore, on great through lines, the transportation of invalids is liable to become a serious question to the general manager. The invalid seeking a change of climate in his search of health will naturally resent the imputation that his presence is a menace to the health and lives of others; while those who believe themselves to be in good health will object to being associated for long distance travel with those suffering from tuberculous and other infectious disease. Sooner or later, it is quite probable that on through routes to Florida, Colorado, New Mexico, California, and other places, a hospital car will become part of the train service, the number of trips per month to be regulated by the demand. Such cars should be constructed under the direction of our most expert sanitarians; should have all the important improvements in heating, ventilation, and appliances for the comfort of invalids and their attendants; but all luxurious appointments, such as curtains, carpets and plush coverings, should be reduced to the minimum, and every part of the coach and its fixtures should be so arranged that it could be cleaned and completely disinfected at any station, or, if need be, the same could be thoroughly accomplished while en route.

Other things being equal, a car of the boudoir pattern, somewhat modified, would probably meet the wants of that class of travellers better than almost any other of our present style of coaches, as curtains and other things that would become soiled and unwholesome could be reduced to a minimum or left out altogether in the furnishing of the car.

I am not a practical mechanic, and therefore feel a diffidence in making suggestions which require the approbation of a master mechanic, but it would seem to the professional mind that with our present means of heating with steam direct from the engine that it should be very easy to arrange for the complete disinfection by steam with but little | TIMES AND REGISTER.

trouble, and that it might be done very expeditiously. This is a matter in which the expert sanitarian and the practical mechanic must meet on mutual ground and agree upon some method that will be effectual and secure the confidence of the public; at the same time it must be simple and comparatively inexpensive, else it will not receive attention from the trainmen and others, to whom it would have to be intrusted. I should have some doubt of such a coach being at once self-supporting, much less of its ability to pay a dividend on the amount invested. yet it is quite possible that in advertising the trunk line over which it was intended to run at regular intervals it might prove as profitable as any other means of bringing the route into favor with the public. To do this, it must be constructed on such mechanical and hygienic principles as to commend itself to every one having occasion to investigate its use; and the possibility of its being thoroughly cleaned and disinfected must be obvious and recognizable by all classes of people, else distrust instead of confidence will be engendered, and therefore it would fail of accomplishing the grand work for which it was intended.

This paper has been somewhat discursive in its character, but if I have succeeded in impressing upon the members of this association that there is a need of discussing this question, as well as of the fact that in the solution of the problem, the invalid, those in good health, and the stockholders and management of the roads are all deeply interested in bringing about a much needed reform, the object of its being written will have been accomplished.

[While this paper was in preparation, the writer saw in the Daily Press a statement to the effect that a large cattle owner in one of our western states had commenced a suit for damages against a railway running through his ranch, on the ground that the road had been guilty of transporting diseased cattle and as a consequence his herd had become affected.]

### NOTICE.

The next number December 19th, will be devoted to opthalmology and will contain some valuable articles.-ED.

## \*THE TREATMENT OF DIPH-THERIA.

By E. L. B. GODFREY, A.M., M.D.

[Physician to Cooper Hospital; Lecturer on Medical Nursing in New Jersey Training School for Nurses, Camden, New Jersey.]

DESIRE to call your attention, as an-I nounced in the program, to the treatment of diphtheria. The subject is full of interest, not alone from the past and present prevalence of the disease, but from the startling fact that, despite the great advancement in sanitary science, diphtheria is more continously present than any of the acute contagious diseases. Further than this it can be said that diphtheria, despite sanitary science, has steadily advanced, and, for several years past, has maintained the character of an epidemic in this section of the country. I shall speak from the standpoint that diphtheria is primarily a local disease; that systemic infection is secondary to the local invasion, and beg to call your attention to the hygienic, the medical and the preventive treatment.

#### THE HYGIENIC TREATMENT

In the hygienic treatment, the selection and care of the sick-room and the care of the patient, as regards the toilet, are matters of prime importance. Neglect in these particulars means danger of reinfection and the further spread of the disease. The sickroom should be selected in reference to its airspace, its exposure to sunlight, its ventilation and the isolation of the patient. The care of the room is equally important. All unneccessary furniture should be removed to obviate the need of keeping it clean and of disinfecting it after the termination of the disease. Dust should be banished from the sick-room, because it irritates the throat and affords a medium in which the poison thrives. Cleanliness during the progress of the disease, and the disinfection of the premises after its termination constitute, in the main, the duties of the nurse attendant. However trite this may seem, it is so rarely carried out, that it will bear iteration and re-iteration

Care of the patients' toilet, and frequent changes of bed clothing are needed, on account of the liability of their becoming soiled with sputa, the salivary and pharyngeal secretions, which contain the virus of the disease. This is not extensively diffused in the room, but attaches itself to the clothing, bedding and the sick-room appliances. All soiled clothing should, therefore, be disinfected with boiling water before being removed from the room. These points are not insignificant; their observance will not only mark the difference (when the disease is treated from its initial stage) between a short or long continued difference but the between the limitation of the disease to one in the household or the infection of others. The confinement of the patient to the bed, as well as the cleanliness in the toilet, is a matter of moment. This should be done during the progress of the disease, and for a considerable time after convalescence is established. Three weeks is not too great a time for the confinement of a case of ordinary severity. I make confinement in the bed an imperative rule, so long as there is noticed disturbed rhythm in the action of the heart. Rest in bed tends to ward off renal complications and paralysis, which are the most important sequelæ. Paralysis takes place, as a rule, during or after the establishment of convalescence and may follow a mild case. It is claimed to be due to absorption of the ptomaines or the poisonous products of the specific bacteria, and is regarded as a toxic neuritis with degenerative changes, of the nerve This accounts for the great exhaustion, the tendency to paralysis and for the extraordinary slowness of the recuperating process. Even after apparent recovery, paralysis, either local or general, may supervene, so slowly does

until every patient knows its worth. None of the infectious diseases require greater cleanliness or more thorough disinfection for their stamping out than diphtheria, The temperature of the room should be kept at 68°, and continously moistened with steam, medicated with turpentine, thymol, or eucalyptol, etc., especially so if laryngeal invasion has taken place, when the temperature should be both warm and moist.

<sup>\*</sup> Read before the Camden County (N. J.) Medical Society.

nerve tissue regain its power. Its tendency to paralyze the heart, through inflammation of the cardiac nerves, makes the disease one of constant dread. Sudden exertion contributes to heart paralysis, when degenerative changes have taken place in the cardiac nerves or in the structure of the heart. Rest in bed, therefore should be insisted upon until health is practically regained.

### THE MEDICINAL TREATMENT.

The medicinal treatment of diphtheria, though far from satisfactory, as the variety of treatments in vogue indicate, is not so much a matter of speculation as formerly, since the bacterian origin of the disease has been established. The bacillus of Klehs-Löffler is now claimed, by our best authorities, to be the exciting cause. Experimentation has shown that cultures of these bacilli inoculated into the larynx of animals will cause diphtheritic exudation with necrosis of tissue, and that the injection of their ptomaines into the blood will cause paralysis allied to that belonging to diphtheria. From this relationship of cause and effect and with these premisis admitted, the conclusion is irresistible that diphtheria is the result of their activity within the throat. Still the bacilli are not found, it is claimed, in the blood even during the period of systemic infection, but are found, in connection with other bacteria, in the diphtheritic exudation These germs, coming in contact with the mucous membrane of the throat, excite inflammation, destroy the cells of the superficial epithelium, which destruction constitutes the false membrane. This, for a time, is so closely adherent to the underlying structures as to prevent the poisonous products of bacteria from being absorbed, unless the membrane of the throat is in an inflamed or ulcerated state, when systemic infection is frequently first observed. Following the state of inflammation cell destruction and the formation of false membrane, there follows a condition of suppuration, tissue necrosis, detachment and abrasion, during which the toxic products of the bacteria are absorbed by both lymphatics and blood-vessels and the system consequently contaminated. Believing this, the medical treatment of diphtheria will be presented from both a local and constitutional standpoint, but only in so far as the treatment relates to cases under my care at the present time.

#### THE LOCAL TREATMENT.

The local treatment should be directed to the arrest of the development of the Klebs-Löffler bacilli. This can best be done by thorough cleanliness and thorough disinfection of the nose, mouth and throat, since the membrane in the early stage of the disease cannot be removed. Forcible detachment of the membrane is condemned, because it affords both an easy ingress for the veins and makes applications painful to endure. Thorough cleanliness, however, of the nose, mouth and throat is imperative. Broken down tissue, mucous accumulations and sordes must not be allowed to accumulate. Free expectoration should be encouraged and the sputa receptacle kept filled with a disinfecting solution. For cleansing the teeth, mouth and throat, vinegar and water, lemon juice, glycerin and water, claret wine and water or pine-apple juice and water will be found of advantage both on account of their being palatable, and because of their tendency to arrest. from their acid nature the development of the germs. Thorough and repeated disinfection of the mouth is required in addition to cleanliness, and under no circumstances should the nose be neglected in either of these particulars.

For the treatment of the throat, the gargle, the spray and the swab, insufflation, inhalations and ice are used. gargle does not affect the posterior part of the throat and, if pain is caused by throwing the head backward, is discon-The spray is repeatedly used, tinued. and corrosive sublimate dissolved in fluid extract of pinus canadensis glycerin and listerin has proven the most satisfactory, although the sulpho-carbolate of zinc dissolved in glycerin and listerin and the per-oxide of hydrogen, glycerin and water have given good results. The swab, made of absorbent cotton, affords the best service. By this method of direct application, every part of the throat can be reached, and upon it rests largely the success or failure of the local treatment. A combination of corrosive sublimate, cocaine, Monsel's solution and

glycerin is my chief reliance. Occasionally, I employ salicylic acid glycerin and alcohol, or the nitrate of silver, or per-oxide of hydrogen and glycerin. For insufflating, when this can best be done, calomel is used; after the membrane has become detached, leaving an abraded surface, aristol and boracic acid are employed. For inhalations, medicated steam is used of which I shall speak later. The use of ice is encouraged for the double purpose of allaying thirst and reducing congestion. Its application to the neck has been abandoned for warm or hot applications, especially during the process of sloughing of the membrane. As an application to the enlarged and painful glands, ichthyol and lanoline, or hot medicated flannels, are

If it is true that diphtheria is due to the activity of specific germs, then the importance of local treatment is admitted. If admitted, then the treatment should be directed to arresting the development of the germ. To accomplish this, the anti-bacterian solution must be placed in direct contact with the germs. The success of the treatment, therefore, depends upon its thoroughness, and the accomplishment of the object sought; this requires patience, skill and courage; but when applied with this definite object, at least every hour of the first day, the disease will be cutshort in its death-dealing progress. The disease makes rapid progress. The child should be awakened for local treatment, because local treatment is more important than sleep. It will be observed the cleaner the throat is kept, the milder will be the disease.

### THE CONSTITUTIONAL TREATMENT.

The object to be accomplished by the constitutional treatment is to combat the effects upon the system of the toxic-absorption from the throat. This, excluding the sequelæ of paralysis, bears a definite proportion to the throat deposit. It consists chiefly, as has been stated, of a toxic neuritis, with impoverished blood, etc. To combat its effects, there is no specific remedy. To place the patient under the best sanitary environments; to regulate the secretions and to maintain the strength by regular feeding

and tonic remedies is the object to be attained. For this a combination of corrosive sublimate and tincture of the chloride of iron is first employed. The corrosive sublimate is pushed almost to its toxic effects, but is withdrawn if symptoms of gastro-enteritis present themselves. It has not given me the satisfaction in diphtheria that has attended its administration in scarlet fever. As soon as the necrotic condition appears within the throat, a combination of the chlorate of potassium and Basham's mixture is given. Basham's mixture is more easily absorbed than the tincture of the chloride of iron and proves of better service in stimulating the function of the kidneys. The depressing effect of the chloride of potassium upon the heart must not be forgotten. The condition of the heart should always receive attention. The danger of heart paralysis from neuritis of the cardiac nerves or from endocarditis is always present, especially during convalesence. The least disturbance in its rhythm, or the first appearance of a slow or a rapid pulse calls for special treatment. Strychnia, or the tincture of nux vomica, digitalis and stimulation are employed according to the condition of the heart's action.

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Regular feeding, during the day and night, is very important, because diphtheria, more than any of the acute diseases, tends to exhaustion. In difficult deglutition or continued nausea, nutrive enemata are resorted too. The food is given hot and in liquid form. Milk should be the basis, and to vary the taste. which is an important item, may be given in coffee, tea, cocoa, wine, oyster juice, clam juice, with vanilla, nutmeg or eggs, or in the form of whey, junket, gruels, custards, etc. If curds are vomited, peptonize the milk; beef juice and beef pulp should also be given.

For laryngeal invasion, steam inhalations are given. The steam is medicated with turpentine, eucalypiol or carbolic acid, introduced into a tent under which the patient is continuously kept. Calomel is given internally with stimulants; vomiting is early induced and if dyspnea is not relieved, intubation or tracheotomy are recommended.

For nasal complication, indicated either by the odor or the discharge from the nostrils, the nostrils are syringed every half hour or hour with a warm solution of corrosive sublimate.

#### THE PREVENTIVE TREATMENT

The importance of this treatment will be admitted when I tell you that 2624 cases of diphtheria were reported to the Board of Health of Philadelphia, from January 1st to October 28th, 1893, with 750 deaths, making a death-rate of 281/2 per cent. During the same period, in Camden, 220 cases were reported to the Health Board with 56 deaths, making a death rate of 251/2 per cent. These are startling figures and prove that the principles of preventive medicine are not practiced to any great extent by physicians or executed by public health offi-Were cholera or small-pox present in either city to the extent taat diphtheria prevails, both cities "woul I be up in arms.

To subdue the disease, isolation and disinfection must be insisted upon. These principles, as they relate to the patient have been considered. Equally important is it that disinfection be applied to the premises. To insure the practice of isolation, cleanliness and disinfection in diphtheria, the people must be educated to the fact that the virus of diphtheria does not come from the breath of the patient, but from the sputa, the salivary and the laryngeal secretions; that the virus possesses the powers of life and development; and that it attaches itself to clothing and furniture, and in order to destroy it, the disinfectant must come in absolute contact with it and must be of such a nature as to destroy life. This education is the province of health officials, and if made a part of the policy of Boards of Health, the prevalence of diphtheria will be materially checked.

REMOVAL OF FIBRO-MYOMATA WITH THE PREGNANT UTERUS, ELEVEN WEEKS' GESTATION. BY BAER'S METHOD.—RECOV-ERY.\*

By THAD. A. REAMY, M. D. L.L.D., CINGINNATI, O.

MRS. R.,—aged 30, married; American; admitted to my private hos\*Read before Cincinnati Academy of Medicine,
Oct. 16th, 1893.

pital September 11th, 1893. Family history good. Patient's general health fairly good, until within the past two months, she has been weak, appetite poor, rapidly emaciated, somewhat anemic.

Last spring she had some form of fever, lasting some weeks.

Patient first menstruated at the age of thirteen, since which time she has been regular with exceptions hereinafter to be noticed. She was married two years ago. Menstruation due last July was missed. In August she menstruated rather profusely. Menstruation would have been due September 15, last.

In September, 1892, she first noticed a swelling in the right side of the abdomen, as large as the closed fist. It did not perceptibly increase in size for four months. It now grew rapidly.

Last May she noticed a growth in the left side, suffered constant abdominal pain, had profuse leucorrhea and considerable vesicle irritation.

When examined by me, prior to admittance, the abdomen was enlarged equal to seven months' gestation A hard body, comparatively smooth upon its surface, rather freely movable, could easily be made out as filling the upper portion of the pelvis and extending above the umbilicus. The uterine cervix could easily be reached per vaginam by the examining finger. It was suspiciously soft. The cervix moved freely from side to side, as the tumor was carried from side to side by manipulation.

No fetal heart sounds, and no so-called placental souffle, (which in reality is sound emitted from the ascending uterine arteries), could be heard. The question of pregnancy was considered by me but not decided. The diagnosis was made of a uterine fibro myomata. Its removal by abdominal section was decided upon. as its growth was rapid, and the patient's health failing. Assisted by my nephew, Dr. Chas. Bonifield, the operation was made September 19th. Dr. Walters, of Covington, who had kindly referred the case to me, being present. After the incision the tumor, with the uterus, was with some difficulty lifted out of the abdominal cavity. The uterus was directly in front of the tumor. Its appearance left no doubt as to its being pregnant.

As the tubes and ovaries were comparatively healthy, and the tumor was subperitoneal, I decided to attempt its removal leaving the uterus undisturbed. This decision was made notwithstanding the fact that the tumor extended from cervix to fundus and its attachment to the uterus was very broad. Also the subperitoneal vessels, both veins and arteries, distributed over the tumor from the uterus, were large and numerous.

The capsule of the tumor was incised longitudinally, and its enucleation accomplished. To facilitate this manipulation, longitudinal section of the tumor was made from behind, and its removal completed without difficulty. So extensive was the uterine surface left uncovered by peritoneum; extending as it did from fundus to cervix posteriorly, and from cornu to cornu; so numerous and large were the blood vessels emerging from under the uterine peritoneum which had been already tied, and so universal and free was the oozing of blood from the broad surface alluded to, that I decided to remove the uterus as the only safe procedure. This decision was made notwithstanding the fact that I had retained a sufficient amount of peritoneum stripped from the tumor on the two sides, and uninjured in its attachment to the uterus, to have covered over the whole field of the uterus which had been uncovered. The decision to remove the uterus was also strengthened by the fact the uterine walls seemed unduly soft, and abnormally discolored. If I left it, under all the circumstances, I believed an early abortion, with its probable fatal results, almost inevitable.

The ovarian arteries on either side were ligated, the broad ligaments between the uterus and ligatures clamped, incisions made on either side between ligature and clamp, the peritoneum incised an inch above the utero vesicle fold anteriorly, and peeled down. Posteriorly it had already been peeled down in removal of the tumor. The uterine arteries on either side were now tied, and the uterus cut away without rupturing the sac. The cervix was now hollowed out by removal of the portion which is here exhibited, the infra-vaginal portion was now dropped and the anterior and posterior folds of peritoneum turned inward,

peritoneum to peritoneum, and secured in coaptation by several fine silk, interrupted sutures.

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Several small vessels from which oozing occurred, after hollowing out the cervix, were tied, with fine silk, before it was dropped. The peritoneal cavity was cleansed by pieces of fine gauze instead of sponges, and the abdominal wound closed by silk worm gut ligatures. No drainage tube was inserted. The patient has made an uneventful recovery and will return to her home in Kansas.

No discharge whatever took place from the cervix or vagina after the operation. This is worthy of note since several ligatures were applied. Of course everything was extra peritoneal, but accessible to the canal in the infra vaginal portion of

the cervix.

It is scarcely necessary to state, in conclusion, that the operation was in every particular, that devised by Baer of Philadelphia.

I may add that in properly selected cases, I believe it to be superior to all

other known methods.

# Lecture.

# THE PHILOSOPHY OF MAN.\*

By JAMES E. GARRETSON, A.M., M.D.

(Continued from last number.)

N understanding to be conveyed is that this wonderful thing called mind is one with anything played by a player. Now, as has before been suggested, a baby plays not mind as it plays not scores; having nothing of either to play. We are, at this beginning, to appreciate that mind has no different relation with brain than has flute music with a flute; both brain and flute instruments, nothing else. What is played is external to the instrument, and, as certainly will be agreed to in the case of the flute, is in no sense the instrument itself. This proposition being accepted it is necessarily recognized that playing must be in correspondence with the possessions of a player, scores in the

<sup>\*</sup>Lecture before the Garretsonian Society, delivered at the Medico Chirurgical College, Nov. 21

case of a flutist, ideas in the case of a

philosopher.

Now, while in a search after truth, as existing with the reality of things, philosophy starts with Common Sense, it is but a short time in perceiving that Common Sense is one with body sense, and that this, in turn, is simply abstract animal sense. It is instrument alone. It is means, nothing else. To appreciate the relation of Common Sense with man's universal, it is alone necessary to bring to view the "Natural," so called. A "Natural" is a baby grown into man's stature. He sees, hears, tastes, smells and feels. He plays, however, no notes. A thing of to-day is to him the thing of yesterday and of to-morrow. So-called "ideas are wanting. He is as man what he was as infant. His world is, in but little sense, what the ordinary man's world is. His circle is that of a kitten that we may suppose born on the same day as himself. Reality, as to thing, lies not with the givings-forth of Common Sense people. Common Sense is without data, save as to surface. If Common Sense was the only premise on which to found truth the world would be to man exactly what it is to the lower animals.

Common Sense, or better speaking, the Common senses, are accepted by philosophy as means of inquiry, this alone. A human brain is one with the senses; cognizence by the Something which sees, hears, tastes, smells and touches is had

through it.

We may here pass to Educated sense carrying with us understanding of the unreliability of the teachings of Common sense as this is exponent of reality.

By Educated sense, as propounded at our last meeting, is meant sense prepared for reasoning through possession of experiences. The reasoning lies not, however, with the sense otherwise than as instrument. In this view we may compare, as before, brain and flute. A flute with its primary stops offers but simple playing, refined on the other hand, as in the improved instrument, it affords voice to a harmony not otherwise to have been discoverable by the common ear.

To differentiate, however, between Common sense and Educated sense! Here is something that is not easy. There is no point where the one can be

said to end and the other begin. differentiation lies alone with extremes: A "Natural," if you please, at one end, and a philosopher at the other. Here other confusion confronts us. If all must be known in order that truth be known, what as to opinions lying with different grades of education. If Common sense knows water as simple homogeneity what as to the chemist's sense that knows it as oxygen and hydrogen, and what as to the microscopist's sense that knows it as a swimming place for animalculæ? Has microscopist got the last and the whole of it? May water not be fifty other things to fifty other capabilities? Having heed of such a proposition may we not justly ask if there be any extent of Educated sense in the world that affords else than advance on Common sense, this advance being one in degree with experience possessed. Can a man by searching find out noumenon? Can he find out else than phenomenal expression as to anything? What are the meaning and the good of educated sense? Is answer elsewhere than found empirically? The ignorant drink water and die, say of cholera. The Educated place a single drop under a lens and defy the destroyer. Here is truth, in degree. Is there aught knowable save after this manner of degree? Is degree one with truth as to its finality? finality within the circle of man's capa-Is anything save phenomenon bility? within either the circle or needs of man's capability?

Here we are face to face with phenomena and noumenon. Is Educated sense limited to comprehension of the former? If for example, we can say what a chair is not per se, do we say what it is in calling it matter? Is understanding of a chair possible outside of what a chair is as phenomenon? To tell of a chair, as to its reality, would it not be necessary to say what that is out of which chairs are made? And is Educated sense suited to deal with origin? Not suited to deal with noumenon, and thus grasp the principle of creation, to what must man necessarily confine himself if not to phenomena. Just here the most pertinent of questions: Has man a circle which is his own, outside of which he need not go and cannot go? Is it to know all to know such a circle; all that it concerns man to know? Does such circle include spiritual as well as material? or is there no spiritual? or is it the case that spiritual is contained in material.

Neither Common sense nor Educated sense having to do with noumenon, it follows that man reaches his ultimate as regards relation with the world when he reaches the ultimate of his natural ob-

servations and experiences.

But man claims to know a spiritual which he will not accept as one with material. Is such a claim of any merit? Is the supposition other than a myth brought out of the a prioris of inductive reasoning? This being denied, is the denier not forced to discover other means of knowing than lie with Common and Educated sense? Are there other means?

To be continued in next number.

### NOTICE.

The next meeting of the Pennsylvania State Medical Society will be held in Gettysburg, May 15, 16, 17 and 18, 1894.

It is expected that the historic associations of the famous battlefield will attract an unusual attendance. Those desirous of presenting papers are requested to notify the Committee of Arrangements

at an early date.

The following are the Committee of Arrangements:—E. E. Montgomery, M.D., 1715 Walnut street, Phila., chairman; Isaac C. Gable, M.D., York; Geo. S. Hull, M.D., Chambersburg, John C. Davis, M.D., Carlisle; Henry Stewart, M.D., Gettysburg; Geo. Rice, M.D., McSherrystown; E. W. Cashman, M.D., York Springs.

### EXCURSION TO BERMUDA.

Dr. J. B. Mattison of Brooklyn, is arranging a ten days' excursion to Bermuda, to sail Wednesday, January 3d, 1894. Party limited to twelve. Rate the lowest ever offered. Dr. Mattison knows Bermuda well, having been there several times, and tourists in his charge are assured of a charming sojourn in that "land of the lily and the rose." Details if desired.

Dr. Ernest B. Sangree has removed from 744 South Fifteenth street to 2020 Arch street.

# The Times and Register.

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A Weekly Journal of Medicine and Surgery.

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PHILADELPHIA, DECEMBER 2, 1893.

### THE TRANSPORTATION OF PER-SONS ILL WITH TRANSMIS-SABLE DISEASE.

IN other columns of this issue a valuable paper appears from the pen of Dr. Conn. The substance of his paper is of vital interest to all travellers, both professional and otherwise. The contraction of such diseases as scarlatina, diphtheria, pertussis and tuberculosis from germs deposited in the crevices, curtains, bedding, etc., of railway coaches as well as of steamships is a theme worthy of serious discussion.

Why should the human race not protect themselves from the possibility of disease.

We place barriers to the entrance of diseased beeves into our markets to prevent the contraction of disease ourselves, and yet we sit quietly beside a consumptive and pity the individual who is so afflicted, not realizing that his very breath contains the spores of disease, the vitality of which exceeds that of the germs of cholera.

We have long advocated the placing in the Presidential Cabinet a department of public health, the duty of its chief officer to be the welfare and safety of the health of this great nation. A subdivision in the office providing for sanitary transportation of diseased persons in and through the confines of the United States would largely mitigate the danger to the healthy travelling public, the most of whom are ignorantly unaware of the dangers they incur by contact with the sick.

Indeed, we see no reason why ground for civil damage against a railroad might not be maintained in transporting contagious disease without due protection being provided for the healthy.

A tramp places a tie on the railroad track and, thereby wrecking a train, sends many souls to eternity and injures many more. Action for damages is brought against the company. A person afflicted with small-pox, for instance, occupies a railway coach and, thereby infecting fifty others, renders many crippled and disfigured or causes the death of others, who were ignorantly exposed.

Is the ground for civil action against the company any the less, because death or disability in one instance was by a slow process of accident while the other was swift.

Sanitary hospital coaches should be run on all through trains, not from a financial experiment or standpoint, but as a public necessity in travel; as a baggage car is run.

The matter of finance, it would be

safe to say, would easily be overcome by the company. Most of them have ways of making up their losses; however, we venture to suggest the assurance of lessening danger to the healthy would well be worth a slight addition in rates. The hospital car should be under the supervision of health officers at various points on the line. Men who are thoroughly trained for the position, preferably physicians should be employed for attendance and disinfecting the car. We hope to see some practical demonstration of Dr. Conn's ideas.

### WHO WAS SHE?

I/E have always felt kindly disposed towards the female physician, but if such conduct as is related below is customary with her, she will not be long in demonstrating her unfitness. A lady, the wife of a city physician of the best stand. ing, was suddenly seized with severe pain and hemorrhage, on a 12th street car. Getting out at Locust street, she was in such distress that she asked a woman to assist her. This person stated that she was a doctress, and asked what was the matter. The lady informed her that she feared it was a miscarriage; at the same time telling the woman who she was, and that her husband was awaiting her at the Art Club; and requested the woman to assist her in getting there. This alleged doctress, thus appealed to by a sister woman, in such dire distress, snappishly responded that she had better get a carriage and go home, and deliberately marched off, leaving the lady half fainting on the street! By the help of an officer the lady succeeded in reaching her destination, but the result was the loss of a life which could doubtless have been saved by assistance at the time it was asked.

We are sorry we do not know the name of the female who exhibited such heartless brutality. If she be really a doctress she ought to be driven out of the profession; and from what we have seen of the women doctors of our city, there are not many who would not approve of such a punishment. We would not willingly believe that a woman would refuse succor to a suffering beast; and surely the study of medicine ought to render a woman still more compassionate, more sympathetic, than she is by nature. But if by joining the medical profession woman is transformed into a heartless wretch, deaf to the cry of suffering, then let medicine remain in the hands of men.

# PAINFUL JOINTS IN MUSCULAR RHEUMATISM.

IN the Revue Médicale de la Suisse Romande Aout'93. M. Ruel contributes an article of great practical value on the external use of the salicylates in the

rheumatic affection of joints.

He says: That for more than six years in his clinic at Geneva, he has repeatedly and systematically employed external applications of salicylic-acid alone, or combined internally in painful joint troubles. He first employed in poly-articular rheumatism on the integument in the *loco dolenti*, without concomitant internal medication. The effects were most rapid and happy.

Professor Revillod in his service, says,

that

1st, Salicylic-acid is rapidly absorbed by the skin.

2d. After so applied, it promptly appears in the urine.

3d. It possesses a positive cure action in rheumatism:

He found that the best results were realized when the salt was dissolved in alcohol with about double its volume of castor oil in the form of a liniment, that has been supplied to our pharmacopeia in years.

I have had no experience with it in acute inflammatory rhemuatism, but, for local joint inflammations or neuralgias, or those confined to the muscles, its action is marvellous. I have found it equally

efficient, in phlegmasia-dolens; lumbago, sciatica, blenorrhagic-arthritis, or that arising from malaria or syphilis.

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But, it exerts its greatest potency in the painful joints of children, very many of which, are prematurely set down as tubercular and condemned, and shackled in braces, before rheumatic remedies are thoroughly tested.

This formula which I prescribe, has answered better in my hands for all cases than Ruel's which is intended for rheumatic cases only. It is as follows:

R	Acid. Salicylici	3 iv
	Chloroformi	Ziv
	Tinct. opii	
m	Olei dulcis qs. ad f Sig. Liniment.	3 xi

(Liniment Salicylic Co. Manley.)

M. Ruel's customary formula is:

η.

This is to be applied on a flannel, which is to be covered with some impermeable material, morning and evening. In certain solutions a small quantity of chloroform may be added—say 5 per cent. This addition serves an as an analgesic; besides, favors the absorption of the medicament. About twenty minutes after the salicylic is so employed it can be found in the urine and a few minutes after a salicylic liniment is applied pain vanishes and it is replaced, by a sense of warmth and comfort.

Since 1887 the author has thus employed salicylic acid, in general inflammatory rheumatism, but as well, in its local phases; besides, in pericarditis and pericardo-pleuritis; in the arthroses attributable to neuralgia, gonorrhea, etc.

My own experience with this preparation during the past six months, since I first learned of it, that it provides us with the most valuable preparation. By this combination employing olive oil, instead of castor, we substitute a substance more readily absorbable.

By the addition of opium the sedative properties of the mixture are enhanced so that it serves more effectually as an analgesic in painful neuralgic affections and thus obviates the necessity of administering anodynes internally.

Linseed oil, might be substituted for the olive, when economy is an item.

In all cases it should be applied fresh. Hence, should be compounded only in such quantities as are ordered, for salicylic acid decomposes very readily, and thus, the valuable virtues of the remedy are lost.

It should be applied, chiefly, warm in the palm of the hand and should be well rubbed in; not only over the affected joint, but also above to the next joint over the intersectual muscles. In most cases, but a small quantity of the lini-T. H. M. ment is needed.

# Annotations

STUDIES ON FEVER. (Therapeut. Montshefte.)

BONCHARD speaks of the causes that produce a rise of temperature in patients that are suffering from a febrile disease of some duration. These causes are generally trifling. In typhoid reconvalescents and in tubercular patients, a slight effort, as for instance, getting up, may cause a rise of temperature. When such a patient is received at the hospital, he has always a higher temperature, often 1-2° C. higher, than later on, during his residence in the hospital. Even the cold baths which are used in typhoidsever to reduce the fever, cause a rise of temperature in persons (especially women) who resist against the bath. It is well known that visits or the first attempt to go out may cause fever in a reconvalescent. In a child suffering of slight indisposition, who struggled against the introduction of the thermometer into the rectum, a temperature of 43° C (109°) was obtained. These observations show that absolute rest should be observed by such patients.

ANESTHESIA BY ETHER AND THE RESULTS IN THE PRAC-TICE OF SURGEONS OF LYONS.

(Translated from an article in Archives de Tocologie et de Gynecologie, September, 1893. Par le Dr. Vallas.)

'HE author of the contribution under the above title, gives a very valuable and practical résumé on the subject of ether-anesthesia. He tells us that for

years ether has had the preference, in the hands of the Lyons surgeons, though chloroform is more commonly employed in other parts of France. However, he says, that the rule there is not as in Boston, and other American cities, which prohibits the use of chloroform. He cites Barrier of the Hotel Dieu, who reported five chloroform deaths, during the short time, that this drug was first employed in Lyons.

In 1867 a committee was appointed from the Academy of Medical Sciences of Lyons, composed of M. M. Mayet, Icard, Boncard, Layronne, and Gayet. This Committee reported, that in twenty years, in all the operations performed, in and out of the hospitals there had been six deaths imputed to ether. They concluded, by submitting that "ether may kill, though it is much less dangerous than chloroform." The author maintains that about the same mortality has prevailed since 1867, and adds, that ether deaths for the great number of cases, in which it is employed, are very rare and exceptional. Ether is making more and more partisans every year in England, Switzerland and Italy. Ether should be more generally employed in Chloroform should not be France. wholly set aside, for, there were special cases, and in infancy, where it seems to act well and is safe.

Dr. Vallas proceeds to the manual of etherization (manual opératoire) as employed in Lyons and insists on the importance of using none, but the fresh, pure product. He prefers Roux's cone, rather than the sponge of the Bostonians. Roux's cone has a perforation at the apex, which permits of the free admission of air. However, in a hurry, we may always prepare some simple and efficient device when this cone is not within reach. The dorsal position is compulsory in all cases. Ether should always be given progressively; allowing the patient to inhale it to please himself, until its effects are becoming perceptible when the anesthetic is pushed. Ether is much less active than chloroform use M. Allier's expression, "ce que le vin est a l'alcool;" or, that it bears about the same relation, in potency, with its rival. as light wines do, to spirituous liquors. This must be remembered, by those who

first employ it. From 100 to 200 grammes are used in each case, when employed for an operation, occupying much time.

With nervous patients or hard drinkers we must give much more than this. Much will depend on the anesthetizer in carrying the patient through, without accident. He will watch the pulse, the

respiration and the visage.

With the sudden onset of cardiac weakness and pulmonary congestion, he will displace the ether-cone, until the circulatory system regains its wonted energy, and the intense cyanosis clears up. The first precursors that full narcosis is reached, will be announced through the respiration.

How long will it take to anesthetize

a patient?

Nothing is more uncertain. Some will go under the anesthetic in five minutes; while occasionally in refractory cases, a half an hour will be occupied. This difference is noted with chloroform as well as ether; though, the latter is much slower in its action.

M. Chandaleux noted the time necessary in 242 cases of chloroform anesthesia; which, occupied 2538 minutes; or 10 minutes and 29 seconds each. In 127 cases of ether anesthesia 1768 minutes; or 13 and 55 seconds each. The difference in favor of chloroform then, was,

three and one half minutes.

Once under ether anesthesia, with ample precaution, it may be prolonged from one to two hours or more. But we should observe care here to allow the patient an abundance of fresh air and not by supersaturation of the system, induce bulbar paralysis. With these cases of protracted anesthesia the respiration should be regular, deep and of normal frequency. The author speaks of the minor accidents attending ether-anesthesia; or vomiting, increase of the salivary secretions, the danger of ignition when near a flame, etc.; and then concludes with a few comments on the grave dangers, and death during ether-narcosis. Ether kills, he maintains, through its action on the nerve-centers. First, by paralyzing the sensory reflexes; and next those which have their origin in the medulla oblongata. According Dastre, the first danger comes through an abnormal excitation of the bulbs; the knee; and, another, on a woman

which reacts by an arrest of the cardiac and respiratory movements. The second danger comes from paralysis of the bulb. direct; in which, respiration ceases while the heart continues to act.

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Duret described three types of cardiac accidents provoked by chloroform.

1st. Primitive syncope, laryngo reflex. 2d. Secondary, syncope, or bulbar, (slow).

3d. Tertiary syncope, by intoxication. According to this author, the danger in chloroform intoxication comes from the lungs, from bulbar paralysis of the respi-

ratory reflexes.

According to Juilliard's recent statistics on the comparative mortality of ether and chloroform, we know the following figures. M. N. Rogers, of the Bartholomew's Hospital, London, (Lancet Feb. 90) reported from 1878 to 1887 all their anesthetic cases; which numbered 26,919, of wnich 14,581 were with ether, and 12,368 with chloroform.

In the ether cases there were three

deaths, or one to 4,860.

In the chloroform cases, 10 deaths, or one to 1,236,a mortality four times as great

In the Middlesex hospital the results were quite the same, one death in 208 cases for chloroform, one death in 1,050 cases for ether.

Finally, on this point Juilliard sums up with the monumental collection of 524,507 cases of chloroform-anesthesia with 161 deaths one to every 3,258; ether, 314,738; 23 deaths; or 1 to every 14.987.

Even the latest by Gault on this subject, at the German Surgical Congress at Berlin, in June, 1892, though a partisan to chloroform, he had to admit the greater danger of his favorite. He recorded 95,249 chloroformizations with 37 deaths 1 to every 2,574.

Ether cases 8,433, with one death, one to every 8,433. M. Tripples had since 1886, 6.500 cases with ether; no accident.

M. Poncet with 15,000 etherizations had 2 deaths.

M. Vallas closes his valuable résumé with the report of ten ether deaths in his own practice.

One in a tuberculous child of three years on whom he performed resection of operated on for fissure of the anus. Both left the table in good condition but went into collapse and died soon after reaching T. H. M. the bed.

LEUCOCYTES, OR THE WHITE GLOBULES IN BLOOD AS PROTECTIVE AGENTS OF THE ECONOMY.\*

T is our intention, in this article, to give only a resume in connection with recent discoveries on the subject of natural and acquired immunity. An immunity which not only will prevent infectious diseases, but also moderate their course or extinguish them altogether, by dislodging the elements of infection themselves; their residue, the ptomaines, or finally, the infected humors of the animal afflicted. We may say at the outset that this study is one of great importance, and the researches which it has elucidated are bound to make an impress on our views of bio-histological questions. It has already been more fruitful than the most ardent could desire, and we look hopefully to the near future for the solution, through it, of many obscure points in the pathology of febrile diseases. It is but a short time since the functions which the leucocytes exercise in the economy were enshrouded in profound obscurity.

We now recognize them through the use of the microscope; we can see a host of microbes in enormous profusion scattered through the air, the water, in our clothing, on the integument, on the mucus membranes, in the digestive and aerian passages. Those organisms are endowed with an endless tenacity for life. By their minute proportions they can penetrate the finest pores; they can endure many of them, both freezing and boiling. They multiply at an enormous rate. These are found in great numbers in man and the higher animals.

The epithelial investment of the skin provides a formidable barrier to the entrance of microbes. Nevertheless, even with this protection many of them make their way through the corneous layer into the blood and are disseminated through the economy.

Now, then, how is the system fortified against the ever constant assaults of these myriads of infinitesimal living colonies? Mainly in three ways.

1st. By the oxygen in the blood and tissues.

2d. By the phagocytic power of the leucocytes and other cellular elements. 3d. By the bactericidal power of

the various humors.

It is necessary to say but a few words on oxygen accumulated and scattered by the blood through all the tissues, it renders life impossible to all microorganisms, which are anaerobian, viz: those which develope by contact with the air. Indeed, it may be said, that oxygen occupies the first place as a destroyer of the microbe of the anaerobian species, as the bacillus of tetanus or the maligant ædema of gaseous gangrene. Therefore, as the potency of oxygen as a bactericide needs no further consideration, we pass on to the second, viz.: The phagocytic power of the white corpuscle and a certain number of other cellules.

Without doubt the father of the phagocytic doctrine is Metchnikoff, who, by his studies on the lower animals, arrived at a conception of certain cellular changes in the higher animal, particularly those in the leucocyte, which he found, gathered within its wall and assimilated different microbic elements. The principal argument advanced by Metchnikoff is based on a very common phenomenon, he observed that in a microbic infection, terminating in recovery, in the invaded regions, there was an abundant accumulation of leucocytes, filled with microbes, and their debris. While, on the contrary, in mortal cases there was no such accumulation, or it was of no significance and no importance.

According to Metchnikoff and his partisans cure followed, when the leucocytes were present in sufficient numbers on the ground to do battle with the aggressors; but when this accumulation was not ample, the invasion of the economy became general.

But this very beautiful theory has not

convinced everybody.

The adversaries of Metchnikoff contend that the appearance of leucocytes in the

<sup>\*</sup>Revue Medicale 31 Aout 1893, par M. J. Deny

invaded region, is but a coincidence of a secondary phenomena, having for their purpose to carry and bury the microbes which have been destroyed by the serum the humors. The partisan of phagacytosis answer this by suggesting cum hoc, ergo propter hoc.

Metchnikoff and his followers have endeavored to support their position by proving that the white corpuscle takes up the germ in a living state. This decides the whole question, and here the burden

of proof is demanded.

They answer that organisms in the interior of the globule have been seen moving, presenting various movements.

But this argument will hardly hold,

1st. If these movements are slow we do not see how they can be distinguished from those produced by the protoplasm, in the white globule.

and. If they are active it would seem to surely indicate that the leucocyte is dead, because we cannot understand a viscous particle, as living protoplasm.

This neither is a decisive argument. But from what can be gathered from the most reliable sources it must be admitted that the general trend goes to support Metchnikoff's views, in the main, viz: That the leucocyte does envelope the But, does that prove living microbe. that it is the master? On the contrary, if there is a conquest it is on the side of the microbe, which now holds the fort.

Our experiment lately made with the aid of M. Hart has contributed toward clearing the atmosphere of many obscurities and places the subject in clearer light.

ıst. The leucocytes of the blood do ab-

sorb the living microbes.

2d. They perish in this interior, but not by any power of digestion as pretended by Metchnikoff. Our operative procedure was very simple. The ordinary microscopical examination of the blood will not do here. It must first be defibrinated, infected and prepared on special plagues; then after varying periods we are prepared to proceed with our experimentation. We selected the blood of the dog and employed as an infecting agent, the bacillus communis from the large intestine of man and obtained the following results: Here the author presents an elaborate decimal table of the results after varying periods of time, with mixtures of blood, concentrated and reduced, with the microbes. By these experiments he was enabled to arrive at an exact idea of the destructive power of the blood of the dog on the common bacillus. He noted that in one cubic centimetre of blood which contained 4,000,000 baccili, after one hour; this number was reduced to 200,000; after two hours, 7,000; after six hours they had all perished.

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These experiments were repeated with three different microbes; the common bacillus of the intestine; the staphylococcus pyrogeneus and the spores of the bacillus of barley. The results were

practically the same in all.

When, by filtration the leucocytes were partly eliminated, the bacilli, instead of diminishing, increased in numbers. From which, it is concluded, that the loss of bactericidal power was due to the elemination of the leucocytes which gives the microcidean power to their possessor.

It might be objected, that though these experiments have established the truth of the bactericidal power of the white globule, it does not necessarily prove that they embrace and digest the living germs.

But the repeated and crucial tests to which we carried our experiments incontestibly demonstrated, not only that the leucocyte possesses bactericidal power, but that it absorbs the living bacillus and then

destroys it in its interior.

Laudable pus was taken and mixed with non-filtered blood, with filtered bood, and with a portion of blood which had been diluted. Here, again, an extensive set of tables with the most minute precision, set forth the phagocytic potency of each preparation. From all of which the author concludes that "there is no fact better established, in medical science than that the leucocytes absorb the living microbes and digest them, and that this is the most potent of all factors in destroying infection by pathogenic microbes."

In the next issue the author promises to set forth in detail the share which the serum plays as a germeidal agent.

T. H. M.

NEW TREATMENT OF BRIGHTS' DISEASE.

R. PETER NETSCHAJEFF communicates the results of a new method of the treatment of Bright's disease. Dr. Netshajeff uses the antiseptic properties of methylen blue. Ehrlock and Leppmann warned against the use of the substance in disease of the kidneys, but the results of Netshajeff seem to show that in acute nephritis caused by microorganisms, it is of great use. The drug was administered in 15 cases, 0.1 gram three times every second day, as soon as the second day the diuresis increased considerably, in a few days the casts and albumen disappeared from the urine In other diseases methylen blue has no diuretic action whatever .- Deutche Med. Woch.

# VERTICAL HANDWRITING.

N an article in the Popular Science Monthly under the heading of "An Argument for Vertical Handwriting," J. V. Witherbee points out that not only is the present mode of teaching writing contrary to Nature, and the writing so taught difficult to read, but that writing in which the lines are upright, instead of at a slant of fifty-two degrees, is easier both to read and to write. The main point, however, is that the position assumed by the pupil who slants his letters is very bad from a hygienic point of view. As a rule, he sits sidewise to the desk, with only one arm supported, and as a result one shoulder is higher than the other, besides the head is commonly turned until a line connecting the pupils of the eye is parallel to the line on which he is writing. Nature impels him to twist his neck so that one eye shall be at the same distance from the letters he is making as the other. Unless he does turn his head, the eyes are not equidistant from his work, which tends to shorten the sight of one eye and lengthen that of the other. This accounts in a large measure for the need of two glasses of different power for the same person, so frequently met with at the present time. This position. with one shoulder higher than the other, continued day after day, results in a lateral curvature of the spine. With the vertical writing this is impossible. At

the foot of each copy slip the following directions are printed:-Sit squarely facing the desk, with feet flat on the floor. Raise seat so that both forearms, when placed half their length on the desk, are nearly level. Place paper squarely in front of breast bone. Keep elbows close to body. Sit erect." Compare such a position with that usually assumed by the pupil who writes the ordinary slanting hand, and at once a strong argument in favor of the vertical handwriting is Other advantages of the system are that it can be written more rapidly and occupies less space on the paper. In England this new style is making rapid headway, so much so that the examiners require its use in all the branches of the civil service. - Montreal Medical Journal.

### OBITUARY.

Dr. John M. Keating, LL.D., formerly of Philadelphia, a physician and medical author of national reputation, died at Colorado Springs, November 17. In 1879 he was a member of General Grant's party on a visit to India and Southern Asia. He is best known to the profession by his editorship of the "Cyclopedia of the Diseases of Children." He was the founder and one of the editors of the *International Clinics* and of the *Climatologist*.

Dr. Charles Warrington Earle, president of the Chicago Medical Society, died at his home in Chicago, November 19.

He was born in Westford, Vt., April 2, 1845, and removed to Illinois with his parents in 1854. At the age of 16 he enlisted in the 15th Illinois; was injured while loading a transport In ten months he recovered and re-enlisted in the 96th Illinois; was made Sergeant and promoted to be First Lieutenant. Shortly after the battle of Chickamauga he was taken prisoner while serving in General Gordon Granger's division. His bravery and ga'lant action in battle was the subject of compliment, and he was one of the famous band of prisoners that escaped from Libbey Prison through a tunnel. He returned to his company and served in the battles of Resaca, Kenesaw Mountain, Atlanta, Franklin and Nashville. He was brevetted Captain for bravery in the engagements named.

After the war, he entered Beloit College, Wis., where he remained three and a half years, after which he entered Chicago Medical College and was graduated

therefrom in the class of 1870.

He was once President of the Illinois State Medical Society, and at the time of his death president of the Chicago Medical Society, Dean of the Woman's Medical College, President of the Board of Directors and a Professor in the College of Physicians and Surgeons of Chicago.

Dr. Eugene Horwitz, of Baltimore, Md., died at his home November 10. He had pneumonia, which attacked him while on his return from the World's Fair some days ago. Dr. Horwitz was born in Philadelphia, December 7, 1863, at the residence of his grandfather, the celebrated surgeon, Samuel D. Gross.

# Book Notes.

Books and pamphlets received:

CONNECTICUT STATE MEDICAL DIRECTORY. Published by Danbury Medical Printing Co.

REPORT ON NASAL SURGERY WITH ILLUSTRATED CASES By M. F. Coomes, A.M., M.D. Louisville, Ky, Reprint from Am. Practitioner and News.

HYDROCYSTOMA. By A. R. Robinson, M.B., L. R. C. P. and S. (Edin.). New York, N. Y. Reprint from the Journal of Culaneous and Genito-Urinary Diseases.

LUPUS, ITS EXTIRPATION. By B. Merrill Ricketts, M.D. Cincinnati, O. Reprint from N. Y. Medical Journal.

A CASE OF DISLOCATION OF THE FOURTH CERVI-CAL VERTEBRA WITHOUT FRACTURE. By A. M. Holmes, A.M., M.D. Denver, Col Reprint from Medical News.

LIGATION OF THE COMMON CAROTID ARTERY PRECEDED BY LARYNGOTOMY FOR ANEURISM OF THE INTERNAL, EXTERNAL AND COMMON CAROTID ARTERIES. By John Deaver, M.D. Philadelphia, Pa. Reprint from the University Medical Magazine.

RESULTS OF ASEPTIC CELIOTOMY. By Wm. H. Wathen, A.M., M.D., Louisville, Ky. Reprinted from the American Journal of Obstetrics, September, 1893.

OXALIC ACID AS AN EMENAGOGUE AND OXYTO-CIC. By Homer C. Bloom, M.D., of Philadelphia. Reprinted from *The Medical News*.

# Bureau of Information.

Questions on all subjects relating to medicine will be received, assigned to the member of our staff best capable of advising in each case, and answered by mail.

Whendesired, the letters will be printed in the next issue of the Journal, and advice from our readers requested. The privileges of this Bureau are necessarily limited to our subscribers. Address all queries to

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### DIABETES IN PREGNANCY.

MRS. H. two years ago was pregnant with her first child; was very miserable much of the time; accidentally discovered sugar in her urine about the seventh month. Had been frequently testing for albumen with negative results. The eighth month she was delivered of a dead baby; the urine then gradually cleared up. This was followed by nervous prostration, flatulent dyspepsia and constipation, so much so that she nearly died from inanition.

In the past ten months she has been much better, has gained weight and

strength.

She is now six months pregnant, and for the past two weeks there has been sugar in her urine. However, she is going along much better than she did before.

Now, what is the cause of the sugar in the urine, and what would you advise me to do for her?

I am unable to find a similar case, as to the sugar, on record. W. F. CARSON.

[Glycosuria is rarely present in pregnancy. It is probable that there is in this case a predisposition to this disease. The best results I have yet obtained have been from Rigaud and Chapoteau's solution of strontium lactate; and the fl. ext. syzygium jambolanum caused the disappearance of sugar in two cases.—W. F. W.]

RUSSIAN PHYSICIANS.—There are 12,000 male physicians in Russia, of whom 2,500 are in the army, and 400 female physicians. There is one doctor to every 12,000 people.

# The Medical Digest.

#### THERAPEUTICS.

The Treatment of Cancer with Chromanilin.—Dr. J. Tessari arrives at the following conclusions based upon the results obtained in six cases of cancer inaccessible to operative means:

I. The treatment with chrom-anilin suggested by Mosetig proved of value in

the cases observed

2. The assumption that the dye stuff (cochineal) derived from animals produces better results than chrom-anilin was shown to be correct.

3. Picro-carmine did not prevent the growth of the tumors, did not alleviate the pains nor arrest the purulent dis-

charge.

4. On the other hand, fuchsine had a moderatively destructive action on neoplastic nodules, relieved and sometimes removed the pain, suppressed the disagreeable odor, and reduced or prevented secretion.

5. Methyl violet did not remove the neoplasm, but produced a marked retardation in its development, relieving the

pains and fœtid discharge.

6. When carefully employed none of three substances mentioned occasioned toxic symptoms, and perhaps this may be true of large doses.—Internat. Klin. Rundschau.

Salicylic acid is highly recommended as an application to ring-worm. It may be used as an ointment, but is much better as a saturated solution in collodion. One application is often all that is necessary to affect a cure, but it may be repeated if necessary. The pain caused is not usually severe.

-Med. Times and Hosp. Gazette.

The Toad in Therapeutics.—Dr. Lauder Brunton, in his recent address to the Pharmaceutical Society, mentioned that phrynin has an action resembling digitalis, and he also remarked: "It is quite possible that some of these days we may have an enterprising firm advertising essences of toad as being of superlative virtue for the cure of dropsy."

—Med. Record.

#### MEDICINE.

The Present Epidemic of Influenza.

The sickness statistics of Michigan have demonstrated the law, that, generally, influenza (la grippe) is quantitatively related to the atmospheric ozone, —the more ozone the more influenza; and the law that remittent fever is inversely related,—the more ozone the less remittent fever. The unusual amount of ozone, the increase of influenza and the falling off of remittent fever shown in the State Board of Health Bulletin for the week ending November 18, illustrate these general laws.

The Microbes of Bank-notes.-Two bacteriologists of Havana, Acosta and Grande-Rossi, have been studying the microbes of bank-notes. They proved that the weight of these notes increases in the course of circulation by reason of foreign matter. Then microbes appear, their number exceeding nineteen thousand in one instance. The presence of a septic bacillus that rapidly kills animals inoculated with it, the specific microbe of the bank-note, has also been discovered. Besides this, for which the name bacillus septicus aureus has been suggested, there were eight distinct pathogenic species found upon the Havanese notes, among which were the bacilli of tuberculosis and diphtheria, and the streptococcus of diphtheria.

-N. Y. Medical Record.

The Treatment of Epilepsy.-Flechsig (Neurol. Centrablt, No. 7, 1893) gives a preliminary account of a new mode of treating epilepsy lately originated by him. which he found to be more effectual than methods previously used. His plan consists in giving small but increasing doses of opium for about six weeks, then discontinuing the opium and substituting large doses of bromide (about 7.5 grammes daily). After continuing these for two or three months the dose was gradually brought down to 2 grammes daily. The result usually obtained was cessation of fits as soon as the bromide was commenced; the observations, however, did not cover any great number of cases or period of time. Stein (ibid, October 1st, 1893) has used the method in several cases, of which he specially refers to six. In three of these patients the fits stopped shortly after beginning the course of bromide; the patients then passed from under observation. Two of the remaining patients had no fit from the time that the bromide was substituted for the opium until the date of report (early part of July to September 15th), their general health improved, and their body weight increased. The last case was a boy in whom the fits were arrested for only a few weeks. Prior to the opium treatment this patient had been intolerant of bromide; but after it he could take 5 grammes daily. In general Stein thinks favorably of the method, and recommends it especially for children.

-The British Medical Journal.

### SURGERY.

New Remedy for Gonorrhea.—Alejandre Infante administers internally a 2-5 per cent. watery mixture of fluid extract of aplopappus clareta in two to three tablespoonful doses, and obtained favorable results within a short time in obstinate cases.—Monatsh. f. prakt. Dermatol.

Treatment of Soft Chancres by Heat.

-Lorand (Wiener med. Woch., No. 40, 1893) describes this mode of treatment, which he saw carried out by Welander at Stockholm. It is based on the observations of W. Boek and of Aubert, the latter of whom found that chancrous pus heated to 40° C. became non inoculable. Welander's method is as follows: Water is conducted by two pipes, one carrying hot and the other cold water, to a copper reservoir, and is there kept at a temperature of 50° C. by means of a gas jet. From the reservoir the water is carried by a rubber pipe to a coil of lead tubing through which it circulates, and then escapes by another rubber pipe. If the water in the reservoir is kept at 50° C. it is found that when it reaches the coil it has a temperature of about 41° C., below which it must not be allowed to fall. The ulcers are dressed with pledgets of cotton wool soaked in warm water, any undermined edges being first snipped off. layer of moist wool is then applied round

the penis, and over this the lead tubing through which the hot water is kept flowing. Another layer of wet wool covers the tubing, and the whole is covered with gutta percha tissue. The dressing is changed three times a day. Lorand saw about twenty cases, in some of which the chancres were both numerous and large, treated in this way. In the majority it was found that after two days' treatment the ulcers were clean and healthy, and then the secretion was no longer inoculable. The patients were then allowed to go home, and were treated as out-patients. The sores usually healed quickly under the application of dermatol. Welander's statistics showed that among 118 patients who had been treated by his method at an early stage there was no case of bubo.

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Formation of a New Sphincter After Extirpation of the Rectum.-Dr. Willems has described a plan of preventing the fecal incontinence which so frequently occurs after removal of a portion of the rectum for malignant disease. The good results of simple separation of the fibres of the rectus muscle in gastrostomy have led him to believe that a similar advantage might be attained by fixing the cut edges of the remaining portion of rectum to a slit made in the gluteous maximus by forcible separation of its muscular The following are the steps of this procedure, which has hitherto been practised only on the cadaver: After removal of the lower part of the rectum, together with the sphincter, by the perineal operation, the body, if it has hitherto rested on one side, is now placed in the lithotomy position. If the rectum has not been divided very far above the anus, and its remaining portion can be readily drawn downward, a skin incision about two inches in length is made over the ischial tuberosity in an oblique direction upward and outward, so as to run parallel to the fibres of the gluteus muscle. A slit is next formed in this muscle about a finger's breadth above its lower margin, by separating its bundles by means of a director or closed dissecting forceps. The extremity of the remaining portion of gut is finally drawn through this opening and stitched to the edges of the wound in the skin. When a considerable portion of the rectum has been removed and it is found impossible to drag down the gut margin as far as the ischial tuberosity, the author would endeavor to insert this end of the intestine at a higher part of the gluteus muscle and between the muscular bundles which arise from the margin of the sacrum. In such case the incision, which is made through skin and fasciæ, should be carried obliquely downward and outward from the right margin of the sacrum. The exposed muscular bundles having been separated, and also, if it be necessary, the sacro-sciatic ligaments divided, the end of the shortened gut should then, as in the former instance, be drawn through the slit and tied by sutures to the external wound .- Centralblatt fur Chirurgie.

OBSTETRICS AND GYNECOLOGY.

Conception During the Puerperal Period.—Dr. Brasseur relates the case of a woman, twenty two years of age, who was delivered on July 4, 1892, of her first child. July 8th she practiced coitus, and was again delivered March 10, 1893, of a healthy child. Calculating from the date of coitus, the second pregnancy lasted two hundred and forty-three days, that is, twenty seven days less than the normal. This case has caused considerable discussion Ovulation must have existed in the woman on the fourth day after the delivery, and it was necessarily quite independent of menstruation. Dr. Koenig, who actually observed the case, draws from it the following deductions: 1. A gestation period of two hundred and forty-three days after a fecundating coitus may produce a viable child. 2. The spermatozoa can live in the lochial secretions. 3. The functional activity of the ovaries is not completely suspended during pregnancy. The Graafian follicles so open that they may burst a very short time after delivery. 4. Ovulation and menstruation may occur inde-5. Among pendently of each other. vigorous women, during the period immediately following confinement the uterine niucous membrane may undergo a rapid regeneration which renders possible the implantation of a fecundate ovule immediately after delivery.

-N. Y.Med. Record.

**Tuberculous Peritonitis Simulating** Pregnancy.—Budin (Archives de Tocol. et de Gynéc., September, 1893) relates how he once examined a girl, aged 17. She was very dark and bore hair on the upper lip. There was a deeply tinted areola round each nipple and pigment along the linea alba. The period had ceased. The abdomen was tender, and flabby swelling occupied the hypogastrium. On abdominal palpation it felt like a uterus. There was much emaciation. On bimarual palpation the uterus was clearly defined, small and distinct from the swelling, which was resonant on percussion and crepitant on auscultation Budin diagnosed tuberculous peritonitis. The patient died a few months later, and the diagnosis was confirmed at the necropsy. A few years later he examined a precisely similar case. The fine irregular crepitation is due to displacement of gases in the intestine.

### CHILDREN'S DISEASES.

Crying in Children .- The cry of children, according to Dr. E. C. Hill, in pneumonia and capillary bronchitis is moderate and peevish and muffled, as if the door were shut between child and hearer. The cry of croup is hoarse, brassy, and metallic, with a crowing inspiration. That of cerebral disease, particularly hydrocephalus, is short, sharp, shrill, and solitary. Marasmus and tubercular peritonitis are manifested by moaning and wailing. Obstinate passionate, and long-continued crying tells of earache, thirst, hunger, original meanness, or the pricking of a pin. The pleuritic is louder and shriller than the pneumonic, and is evoked by moving the child, or on coughing. The cry of intestinal ailments is often accompanied by wriggling and writhing before defecation. Exhaustion is manifested with a whine. Crying only, or just after coughing, indicates pain caused by the act. The return or inspiratory part of the cry grows weaker toward the fatal end of all diseases, and the absence of crying during disease is often of graver import than its presence, showing complete exhaustion and loss of power. Loud screaming sometimes tells of renal gravel. -OntarioMedical Journal.

# Prescriptions

### FOR SCURF OF SCALP.

The domestic use of camphor and borax for scurf of the scalp is well known, and this has been reduced to a scientific basis by Hillairet, who prescribes:

R	Borax 20	
	Borax	
	Water	S
M	Ruh well into coaln	

### SIMPLE CATARRHAL RHINITIS.

R	Acid. carbolici gr. viii.
	Sodii biboratis 3 iss.
	Sodii bicarb 3i
	Glycerin f 3ss.
	Aquæ q. s. ad f 3 iv.
	Ft. sol.
210	Dilute one-half with hot water.

TAT.	Ft. 801.				
Sig.	Dilute	one-half	with	hot	water.

R	Sodii bicarb.
	Sodii biborat, aa 3 ii.
	Sodii benzoatis gr. xv.
	Eucalyptol gr. v.
	Ol. gaultheriæ gtt. v.
	Glycerin f 3 ii.
	Aquæ q. s. ad O iss.
M	Ft sol

TAT.	Ft. SOI.			
Sig.	Dilute	one-half	with hot	water.

$\mathbf{R}$	Tinct. iodini m xii.
	Acid. tannici gr. xxx.
	Glycerin f 3 ss.
	Aquæ, q. s. ad f živ.
	Ft. sol.
Sig	. To be used warm as a spray.

-Spencer in International Med. Mag.

### IN CONSTIPATION IN INFANTS.

When the stools are hard and claycolored, Ringer recommends the follow-

R	Resin. podophylli gr. j.	
M.	Alcohol	a
anian	-College and Clinical Record.	

### TO HASTEN DESQUAMATION IN SCARLA-TINA.

Lanolini	$\mathbf{R}$	Resorcin 3 ij.	
		Lanolini	
	Sig	. Rub into skin twice each day.	

--- Indiana Med Journal.

#### FOR HEMOPTYSIS.

K	Quininæ hydrochloratis.
	Pulveris digitalis aa 3i.
	Pulveris opii 3 ss.
M.	Et fiat pilulae No. lx.
	. One to be taken every six hours.
	-Practitioner,

### FACIAL NEURALGIA.

R	Dover's powder.
	Sulphate of quinine, aa 3i.
	Ext. of valerian, q. s.
M.	Pil.
Sig.	Four daily, seldom fails.

-Medical Press.

### ESCHARQTIC PASTE.

Dr. J. Felix, Surgeon to Saint Gertrude Hospital, at Brussels, makes use of a mixture composed as follows, in the destruction of malignant tumors, lupus, nevi, and unhealthy wounds:

$\mathbf{R}$	Wheat flour 3 vij
	Wheat flour
	Corrosive sublimate gr. xv
	Pure iodol,
	Croton chloral,
	Bromide of camphor,
	Crystallized carbol acid aa 3 iiss
	Dry chloride of zinc 3 vij
	Water, enough to make a homogen-
	eous mass of the consistence of
	putty.

-La Revue Medicale.

#### MIXTURE FOR FREQUENT EPISTAXIS.

Dr. A. Harkin (La Semaine Médieale, No. 50, 1893) recommends the following mixture in epistaxis recurring frequently:

Ŗ	Chlorate of	po	tash .	 ٠	gms. 18
	Perchloride	of	iron		gms. 3
	Water				gms. 300

Two tablespoonfuls of this solution three times a day.

#### LOCAL ANESTHESIA.

A local anesthetic recommended by Dobisch:

R	Chloroform				parts 10.0	)
	Aetheris .				" 15.0	)
	Menthol .				" 1.0	)

This mixture is applied by means of Richardson's spray, and, within a minute, an anethesia is obtained which lasts from four to six minutes.

Prag. Med. Woch.